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- b. attaching at least one biological material to the nanoparticles so as to form shells of the biological material therearound, wherein the biological material is selected from the group consisting of proteins, polypeptides, nucleic acids, polysaccharides, carbohydrates, enzyme substrates, antigens, antibodies, pharmaceuticals, and combinations thereof;
 - c. depositing onto a surface the nanoparticles coated with shells attached thereto; and
 - d. causing the deposited nanoparticles to be in electrical communication with at least one electrical contact to facilitate an electrical measurement thereof, the electrical measurement being affected by the biological material.
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10. (Twice amended) A method for fabricating a bioelectronic component, the method comprising the steps of:

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- a. providing a first batch of nanoparticles having submicron sizes and a first electrical characteristic;
 - b. depositing the first batch of nanoparticles onto a surface;
 - c. sintering the first batch of nanoparticles to form a continuous, uniform layer exhibiting the electrical characteristic of the first batch of nanoparticles, the layer having a surface;
 - d. providing a second batch of electrically conductive nanoparticles having submicron sizes;
 - e. depositing the second-batch nanoparticles in contact with a portion of the layer derived from the first batch of nanoparticles; and
 - f. sintering the second-batch of nanoparticles to form an electrical contact,
 - g. providing a third batch of nanoparticles having submicron sizes and a second electrical characteristic;
 - h. attaching at least one biological material to the third batch of nanoparticles so as to form shells of the shells of the biological material therearound;
 - i. depositing the third batch of nanoparticles onto the layer surface formed by the first batch of nanoparticles;

- j. causing the deposited second batch of nanoparticles to be in electrical communication with the electrical contact to facilitate an electrical measurement thereof, the electrical measurement being affected by the biological material.

11. (Twice amended) The method of claim 10 further comprising the steps of repeating steps (a) – (j) at a plurality of locations on a substrate to form an array of bioelectronic components.

26. (Twice amended) A method of fabricating a bioelectronic component, the method comprising the steps of:

- a. providing a batch of nanoparticles having submicron sizes and an electrical characteristic;
- b. depositing the nanoparticles onto a surface;
- c. sintering the batch of nanoparticles to form at least one layer of an electrical device; and
- d. positioning a biological material to be in electrical communication with at least one layer of said electrical device to facilitate an electrical measurement thereof, the electrical measurement being affected by the biological material, wherein the biological material is selected from the group consisting of proteins, polypeptides, nucleic acids, polysaccharides, carbohydrates, enzyme substrates, antigens, antibodies, pharmaceuticals, and combinations thereof.

REMARKS

Claims 1–13 and 26 – 28 are pending.

Basis for the amendments to claim 1, 10, 11, and 26 may be found, for example, in original claim 1, and at pages 2–3, 9–13 and Figures 1–2 of the specification. Applicants submit that no new matter has been introduced by these amendments. Moreover, Applicants note that the amendments to the claims were made solely to clarify the scope of the present invention, and not for reasons related to patentability.